

**WHAT IS CLAIMED IS:**

1. A method of drying metallic waste likely to catch fire and/or explode, said dried waste being for compacting, the method comprising:

- 5       - loading said waste into a compacting canister; said canister of cylindrical or prismatic shape having one or more axial walls, a bottom, and a cover, and being fitted with means respectively for enabling a drying inert gas to be introduced and evacuated so as to dry said waste loaded in said canister, said means for introducing and evacuating said drying inert gas being arranged relative to each other in such a manner that said  
10       drying inert gas introduced into the canister flows significantly through said waste prior to being evacuated from the canister, said canister being closed by its cover after being loaded;  
      said canister, prior to said loading, having previously been positioned empty in the cavity of a moving enclosure, said cavity being formed in the  
15       body of said moving enclosure and being open on top, or otherwise
  - said loaded canister closed by its cover is positioned in the cavity of a moving enclosure, said cavity being provided in the body of said moving enclosure and being open on top;
- then:
  - 20       - docking said moving enclosure loaded with said canister itself loaded with said waste to a stationary docking station; said stationary docking station
    - + presenting a configuration adapted to confine said canister in a hermetically closed volume once said moving enclosure has docked;
  - 25       and
    - + being fitted with means respectively for delivering said drying gas into said canister and for evacuating said drying gas from said canister; said means of said docking station being suitable respectively for co-operating with the means for introducing and evacuating said gas that  
30       are fitted to said canister, either directly or via means for circulating said gas formed in the body of said moving enclosure; and
    - setting said drying inert gas into circulation through said canister confined in said docked moving enclosure.

2. The method according to claim 1, wherein, for introducing or evacuating, advantageously for introducing, said drying inert gas, the suitable means of the docking station co-operate with the suitable means fitted to the bottom of said canister via means for circulating said gas  
5 arranged in the body of said moving enclosure.

3. The method according to claim 2, wherein said drying inert gas is introduced into said canister via a check valve fitted to the bottom of said canister.  
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4. The method according to claim 1, wherein, for introducing or evacuating, advantageously evacuating, said drying inert gas, the suitable means of the docking station co-operate directly with the suitable means fitted to the cover of said canister.  
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5. The method according to claim 1, wherein said drying inert gas is evacuated under conditions which limit the entrainment of dust.

6. The method according to claim 1, wherein, in parallel with setting said drying inert gas into circulation, the method includes sweeping the fraction of the hermetically closed volume that is not occupied by said canister with an inert gas delivered by suitable means from said stationary docking station either directly or via means for circulating said inert gas and formed in the body of said moving enclosure, and evacuated together with  
20 said drying inert gas by the evacuation means of said docking station via means for setting said inert gas into circulation and arranged in the body of said moving enclosure, or else directly.  
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7. The method according to claim 1, wherein said drying inert gas and said sweeping inert gas when used, circulates in means of the fixed pipework type.  
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8. The method according to claim 1, comprising:  
- loading said waste into a compacting canister; said canister  
35 presenting on its bottom a check valve suitable for introducing the drying

inert gas, and on its cover means suitable for evacuating said drying inert gas while limiting the entrainment of dust;

5       - positioning said loaded canister closed by its cover in the cavity of a moving enclosure; said cavity being provided in the body of said moving enclosure and opening out in the top portion thereof;

      - docking said moving enclosure loaded with said canister, itself loaded with said waste, to a stationary docking station, said stationary docking station:

10       presenting a suitable configuration for said canister to be confined in a hermetically closed volume once said moving enclosure has docked; and

      being fitted with fixed pipework respectively for delivering into said canister and for evacuating from said canister said drying inert gas; said fixed pipework for delivering said drying inert gas co-operating  
15       with said check valve provided on the bottom of said canister via fixed pipework for circulating said drying inert gas and provided in the body of said moving enclosure, and said fixed pipework for evacuating said drying inert gas co-operating directly with the means for evacuating said inert gas provided on the cover of said gas;

20       - setting said drying inert gas into circulation through said canister confined in said docked moving enclosure together with setting said sweeping inert gas as delivered by fixed pipework of said docking head into circulation via fixed pipework for circulating said sweeping inert gas and provided in the body of said moving enclosure, through the fraction of  
25       the hermetically closed volume that is not occupied by said canister, said sweeping inert gas being evacuated directly together with said drying inert gas via the fixed evacuation pipework of said docking head.

30       9. The method according to claim 1, the method being implemented with limitation of heat loss from said drying inert gas; said moving enclosure being thermally insulated and/or said sweeping inert gas, if used, advantageously being used hot.

10. The method according to claim 1, wherein said drying inert gas is selected from nitrogen and argon, or even air, and is delivered at a temperature lying in the range 180°C to 210°C.
- 5 11. The method according to claim 6, wherein said sweeping inert gas is selected from nitrogen and argon, or even air, and is advantageously delivered hot, advantageously at a temperature lying in the range 80°C to 120°C.
- 10 12. The method according to claim 1, wherein said metallic waste is radioactive waste, containing zirconium and/or magnesium and/or alloys of these metals, in particular.
- 15 13. An apparatus for drying metallic waste liable to catch fire and/or explode, the apparatus being particularly suitable for use in implementing the method according to claim 1, the apparatus comprising:
- a canister for compacting said waste, the canister being cylindrical or prismatic in shape, presenting one or more axial walls, a bottom, and a cover suitable for closing it, said canister being fitted with means
  - 20 respectively for enabling a gas to be introduced and evacuated in order to dry waste loaded into said canister; said gas introduction and evacuation means being arranged relative to each other in such a manner that said introduced gas flows significantly through the inside of said canister prior to being evacuated;
  - 25 - a moving enclosure presenting a cavity formed in its body and opening out in its top portion; said cavity being suitable for receiving said canister; and
  - a stationary docking station for docking to said moving enclosure loaded with said canister; said stationary docking station:
  - 30 presenting a configuration that is suitable for said canister to be confined in a hermetically closed volume after said moving enclosure has docked; and
  - being fitted means respectively for delivering a drying gas into said canister and for evacuating said drying gas from said canister;
  - 35 said means of said docking station being respectively suitable for co-

operating with the means for introducing and for evacuating said gas fitted to said canister, either directly or via means for circulating said gas and provided in the body of said moving enclosure.

5     14. The apparatus according to claim 13, wherein said means for introducing and for evacuating the gas that are fitted to said compacting canister are disposed, one on the bottom of said canister and the other on the cover of said canister.

10    15. The apparatus according to claim 13, wherein a gas introduction check valve is fitted to the bottom of said compacting canister.

15    16. The apparatus according to claim 13, wherein a gas evacuation orifice is provided in the cover of said compacting canister; and wherein means are advantageously arranged on the inside face of said cover in register with said orifice to constitute an obstacle to dust being entrained.

20    17. The apparatus according to claim 13, wherein said stationary docking station is also fitted with means for delivering a gas for sweeping that fraction of said hermetically closed volume that is not occupied by said canister after said moving enclosure has docked; said means delivering said gas directly or via means for circulating said gas and provided in the body of said moving enclosure, and said means for evacuating the drying gas being suitable for evacuating said sweeping gas, implemented via  
25    means for circulating said sweeping gas provided in the body of said moving enclosure, or directly.

30    18. The apparatus according to claim 13, wherein the means for delivering, evacuating, and optionally setting into circulation said drying gas and optionally said sweeping gas are of the fixed pipework type.

19. The apparatus according to claim 13, wherein said moving enclosure is lagged.

20/ A canister for compacting metallic waste liable to catch fire and/or explode, in particular suitable for implementing the method according to claim 1, said canister of cylindrical or prismatic shape having one or more axial walls, a bottom, and a cover suitable for closing it, and said canister  
5 being fitted:

- on its bottom with a gas introduction check valve; and
- in its cover with a gas evacuation orifice; means also advantageously being arranged on the inside face of said cover in register with said orifice to constitute an obstacle to entrainment of dust by said  
10 gas.